AN ASSESSMENT OF QUALITY OF LIFE IN RURAL AREAS OF DISTRICTS IN ODISHA: (A BLOCK - WISE CASE STUDY FOR KHORDHA AND NABARANGPUR DISTRICTS)

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ABSTRACT

The main aim of the paper attempts to maintain a decent quality of life (QOL) to the rural people of the districts in Odisha by providing better facilities and amenities like health, education, sanitation, financial services and power supply. The study seeks to endeavour the quality of life in rural areas of developed district of Khordha and backward district of Nabarangpur. It also focuses to show spatial variation block-wise with the help of qualitative & quantitative assessment comprising of all aspects of quality of life. The assessment is based on primary data collected from questionnaire survey as well as secondary data taken from the district census handbook of Khordha and Nabarangpur, 2011. For proper examining purpose Z – Score technique is used and cartographical representation is done through ArcGIS (10.4) in order to show the level of availability of amenities within the districts. On the basis of above mentioned assessment, quality of life of the different blocks of the districts reveals that blocks namely; Banapur, Bolagad in Khordha district and Jharigan, Kosagumuda in Nabarangpur district indicate the region of high level of quality of life. About sixty percent and fifty percent of the blocks in Khordha and Nabarangpur districts come under medium category of quality of life respectively.

KEYWORDS: Quality of Life, Urbanization, Human Development Index (HDI) Values, Health, Education, Sanitation, Financial Services, Power Supply, Khordha District & Nabarangpur District

Original Article

INTRODUCTION

In general, QOL is the standard of health, comfort, and happiness experienced by an individual or group—"the things that are needed for a good quality of life." There are no universally accepted approaches for Quality of Life (QOL). It is a choice influenced by time, space and culture. It must be confronted forcefully with greater imagination and with a determination that new initiatives are implemented thoroughly and effectively. By focusing on QOL, the intention is to take a broad and holistic view of rural area upliftment, with the conviction that QOL perspective will help to develop policies that reflect the aspiration of the people and lead to powerful synergies between the social, human and economic spheres.

The availability of services supplied in a rural area is able to influence local resident's quality of life (Layard 2005, Sen 1993; Alkire, 2005, Prescott-Allen 2001, Stiglitz, et al 2009). The individual quality of life does not depend on utilities of services available, but on functioning and capabilities (Sen, 1980; 1982; 1988). In general, the concept of quality of life has socio-economic dimensions and monetarist measurements embracing social and environmental

features. Therefore, a large set of indicators must be premeditated and evaluated to take all of these features into account. However, as Boncinelli and Casini (2014) pointed out that the quality of life includes not only the identification of a set of indicators, but also their aggregation.

The development of a region can be identified with an increase in the employment opportunities, availability of infrastructural facilities, amenities and services, proper distribution of resources, increase in production, and investment in consumption and so on (Sixl and Sixl, 1999). Availability of modern household amenities and assets also has dominant significance in the human life. It is also being realized that key dependencies exist between water supply and sanitation and improvement in the overall human development (Dreze and Murthi 2001; Gupta and Mitra 2002). It is unadventurously believed that housing conditions, availability of drinking water, sanitation facilities, etc. might contribute to the health improvement of the people and determine the quality of life of the society (Nayar, 1997). Other theoretical work by Roback (1985, 1988) and Blanch flower and Oswald (1996) show the relationship between amenities, quality of life, and rural economic growth.

RESEARCH QUESTIONS

- To study the various factors affecting the quality of life of the rural people in the study area.
- To analyse the current status of the districts with respect to quality of life.
- To develop a quantitative index for measurement of quality of life in the study area.
- To show the spatial variation block wise in respect to quality of life.
- To investigate the inter-relationship between extent of urbanization and quality of life index block wise in the selected blocks of the respective study areas.

SELECTION CRITERIA FOR CASE STUDY AREA

Table 1: Selection of Case Study Area on the Basis of Percentage of Urbanization and HDI Index

Name of the District	Total Population	Urban Population	Rural Population	Urbanization (%)	HDI Index
Khordha	2,251,673	1,084,316	1,167,357	48.16	0.658
Nabarangpur	1,220,946	87,625	1,133,321	7.18	0.283

Table 2: HDI Index Value Criteria; Development of Human Development Index at District Level for Empowered Action Group (EAG) States in India

HDI Ranking	District	Health Index	Education Index	Income Index	HDI Values
26	Khordha	0.6748	0.7958	0.5323	0.6588
261	Nabarangpur	0.5155	0.1777	0.2485	0.2834

STUDY AREA

Khordha District

Khordha is an administrative division of the state of Odisha, India. It was formed on April 1, 1993, by the division of the former Puri District into Puri, Khordha and Nayagarh districts. The district headquarters is Khordha Town. The capital city of Bhubaneswar is located in this district. Khordha is the most urbanized of all the districts of Odisha. Khordha district lies between 84°55' and 86°50' East longitude and 19°40' and 20°25' North latitude. It is bounded by Cuttack district in north, Nayagarh district in west, Puri district in the east and Ganjam district in the south.
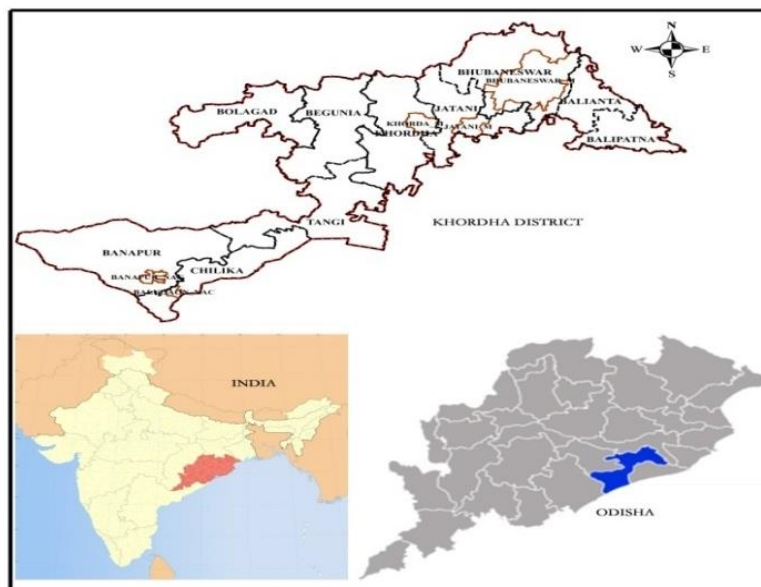
Figure 1: Locational Map of Khordha District

Khordha district has a geographical area of 2813 sq. Kms. The hilly systems of the district are located in Khordha sub-division. Khordha district is situated in the southwest of the state. Khordha is the most urbanized of all the districts of Odisha. Khordha is known for its brass utensils, cottage industries, railway coach manufacturing, and cable manufacturing unit. Also it touches the 'Chilika Lake' in the south. According to census 2011, the total population of Khordha is 5, 521, 673. The whole district is divided into ten blocks.

Nabarangpur District

Nabarangpur District, also known as Nabarangapur District and Nawarangpur District, is a district of Odisha, India. The city of Nabarangpur is the district headquarters. Most of its population is tribal, and most of the land is forested. In 2006 the Ministry of Panchayati Raj named Nabarangpur one of the country's 250 most backward districts (out of a total of 640). It is one of the 19 districts in Odisha currently receiving funds from the Backward Regions Grant Fund Programme (BRGF). Nabarangpur district is located between 19° 9' and 20° 5' north latitude and 81° 52' and 82° 53' east longitude. It is bounded by Chhattisgarh in the west and north by Kalahandi district in the east and Koraput district in the south.

Figure 2: Locational Map of Nabarangpur District

Nabarangpur district has a geographical area of 5291 sq. Kms. The major portion of the district being covered with hills, the present situation of roadways communication is not so much developed in comparison to coastal plains.

DATABASE AND METHODOLOGY

Survey Design for Qualitative Measurement of QOL

Phase I: For Khordha District

Table 3: Comparison between Workers & Non - Workers in Khordha District

Status of Workers & Non - Workers In Khordha District		
Class	**Workers**	**Non - Workers**
No of Persons	7,92,193	14,59,480
Ratio Between Workers & Non - Workers	**1:02**	

Source: District Census Handbook/ Khordha /2011; **Derived By:** Author

Table 4: Comparison between Total Main & Marginal Workers in Khordha District

Status of Main & Marginal Workers in Khordha District		
Class	**Main Workers**	**Marginal Workers**
No of Persons	6,32,635	1,59,568
Ratio	**4:01**	
Ratio Between Workers & Non - Workers	**1:02**	

Source: District Census Handbook/ Khordha /2011; **Derived By:** Author

Table 5: Comparison between Category of Workers in Khordha District

Status of Category of Workers In Khordha District				
Class	**Cultivators**	**Agricultural Labourers**	**Workers in Household Industry**	**Other Workers**
No of Persons	92,662	1,16,274	39,471	5,43,786
Ratio		**1:1.25:0.4:6**		

Source: District Census Handbook/ Khordha /2011; **Derived By:** Author

Number of Samples to be taken in Workers & Non-Workers Category in Khordha District

Taking Consideration

0.001 % Samples to be taken from the total number of Workers & Non – Workers

Total Sample Size Assumed From Workers & Non - Workers: 100

- From Worker's Samples Should be undertaken: 35
- From Non – Worker's Samples Should be undertaken: 65

Number of Samples to Be Taken In Workers Category (Main & Marginal) In Khordha District

- Cultivators: 1/8.65 * 35 = 4
- Agricultural Labourer : 1.25/8.65 * 35 = 5
- Workers In Household Industry : 0.4/8.65 * 35 = 2
- Other Workers: 6/8.65 * 35 = 24

An Assessment of Quality of Life in Rural Areas of Districts in Odisha:
(A Block - Wise Case Study for Khordha and Nabarangpur Districts)

5

Phase II: For Nabarangpur District

Table 6: Comparison between Workers & Non - Workers in Nabarangpur District

Status of Workers & Non - Workers in Nabarangpur District		
Class	**Workers**	**Non - Workers**
No of Persons	6,10,906	6,10,040
Ratio Between Workers & Non - Workers	**1:01**	

Source: District Census Handbook/ Nabarangpur /2011; **Derived By:** Author

Table 7: Comparison between Total Main & Marginal Workers in Nabarangpur District

Status of Main & Marginal Workers in Nabarangpur District		
Class	**Main Workers**	**Marginal Workers**
No of Persons	279,15	331,751
Ratio	**9:11**	
Ratio Between Workers & Non - Workers	**1:01**	

Source: District Census Handbook/ Nabarangpur /2011; **Derived By:** Author

Table 8: Comparison between Category of Workers in Nabarangpur District

Status of Category of Workers in Nabarangpur District				
Class	**Cultivators**	**Agricultural Labourers**	**Workers in Household Industry**	**Other Workers**
No of Persons	173,086	328,783	14,409	94,628
Ratio	**1:2:0.1:0.5**			

Source: District Census Handbook/ Nabarangpur /2011; Derived By: Author

Number of Samples to be taken in Workers &Non-Workers Category in Nabarangpur District

Taking Consideration

0.001 % Samples to be taken from total number of Workers & Non – Workers

Total Sample Size Assumed From Workers & Non – Workers: 100

- From Worker's Samples Should be undertaken: 50

- From Non – Worker's Samples Should be undertaken: 50

Number of Samples to Be Taken In Workers Category (Main & Marginal) In Nabarangpur District

- Cultivators: 1/3.6 * 50 = 14

- Agricultural Labourer : 2/3.6 * 50 = 28

- Workers In Household Industry : 0.1/3.6*50 = 1

- Other Workers: 0.5/3.6*50 = 7

Findings of Qualitative Analysis

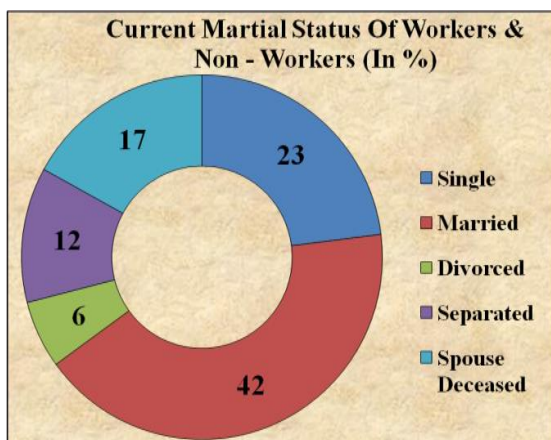**Part I: Khordha District**

Figure 3: Surveyed Martial Status of Non – Workers & Workers – Main & Marginal in Khordha District
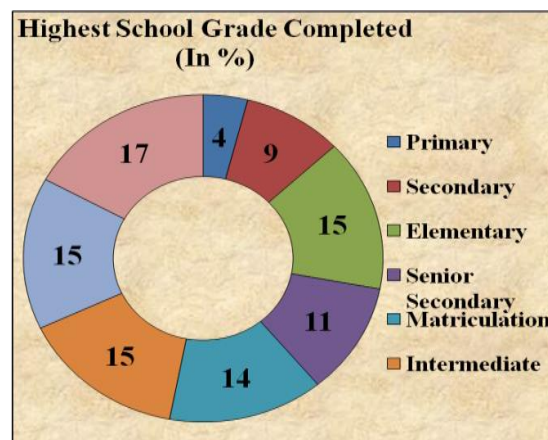

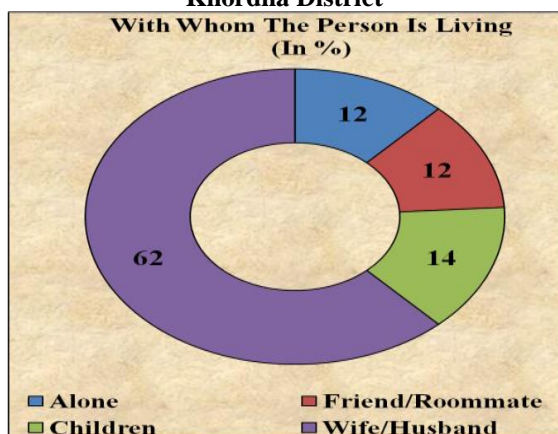**Figure 4: Surveyed Education Status of Non – Workers & Workers –Main & Marginal in Khordha District**

Figure 5: Surveyed Source of Income of Non – Workers & Workers – Main & Marginal in Khordha District
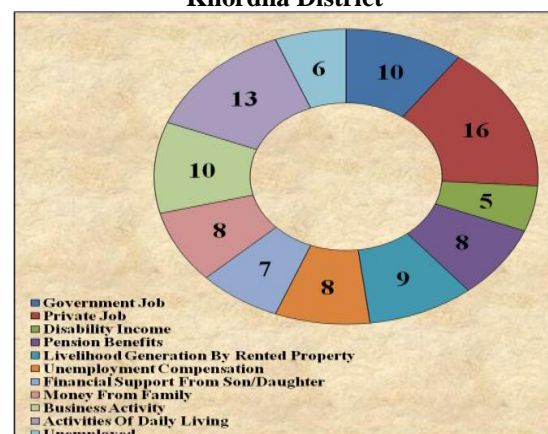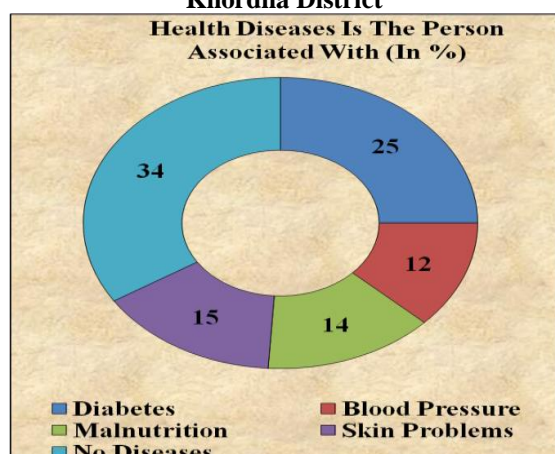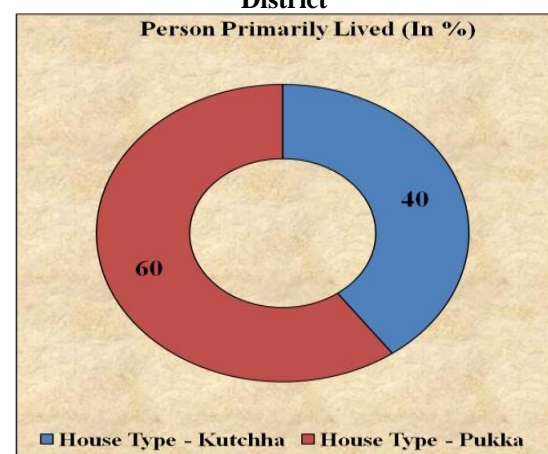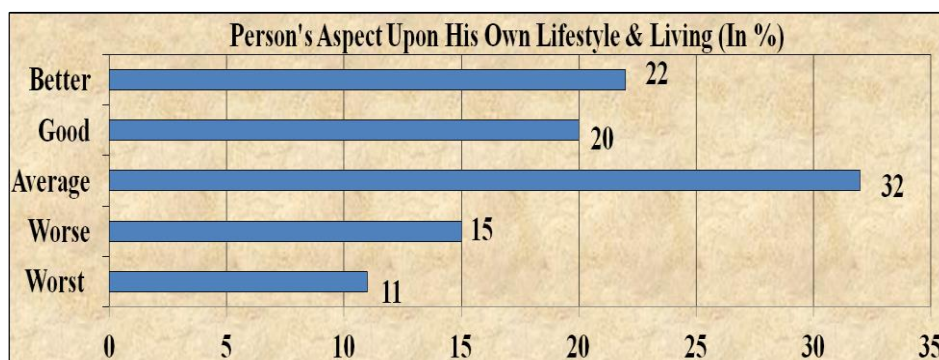

Figure 6: Surveyed Living Aspect of Non- Workers & Workers – Main & Marginal in Khordha District

Figure 7: Surveyed House Type of Non – Workers & Workers – Main & Marginal in Khordha District

Figure 8: Surveyed Health Status of Non – Workers & Workers – Main & Marginal in Khordha District

Figure 9: Surveyed Living Aspects of Non – Workers &
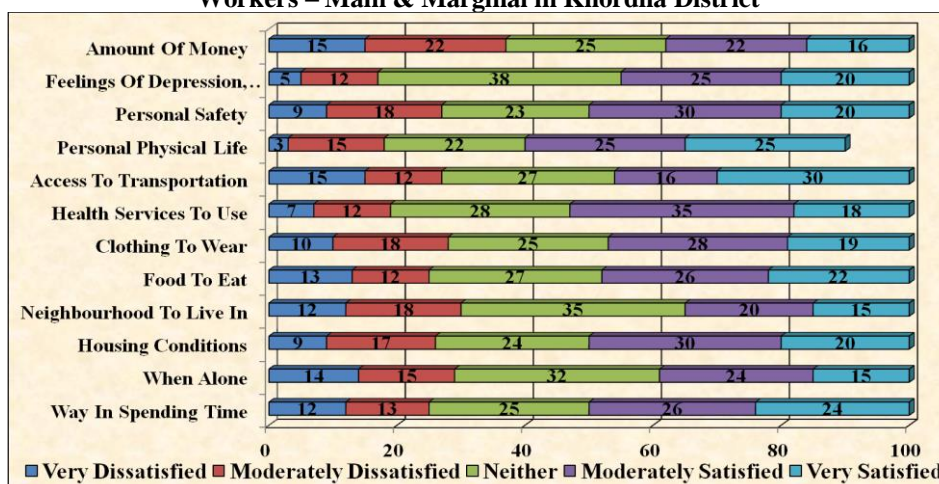**Workers – Main & Marginal in Khordha District**

Figure 10: Surveyed Remarks upon Quality of Life (QOL) by Non – Workers & Workers – Main &
Marginal Including Cultivators, Agricultural Labourers, Workers in Household Industry & Others
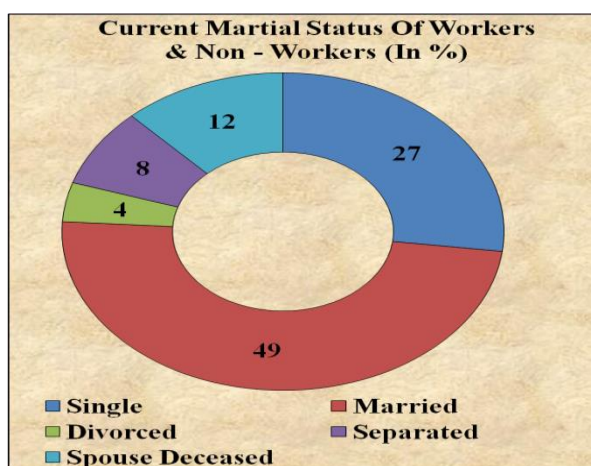**Workers in Khordha District**

Part II: Nabarangpur District

Figure 11: Surveyed Martial Status of Non- Workers
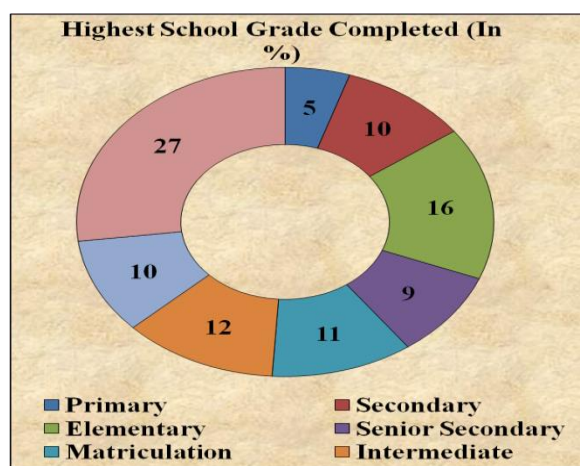**& Workers – Main & Marginal in Nabarangpur**
District

Figure 12: Surveyed Education Status of Non-
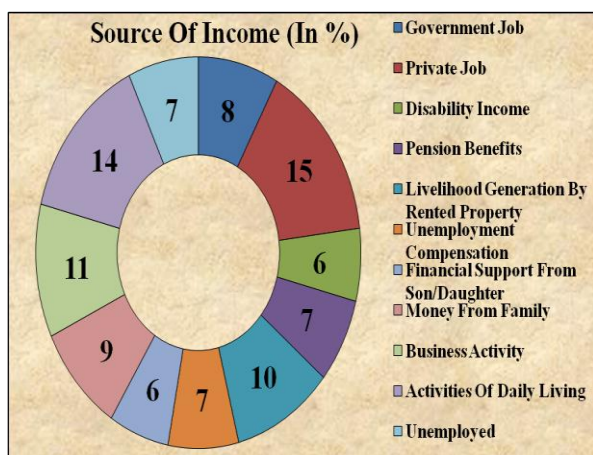**Workers & Workers – Main & Marginal in**
Nabarangpur District

Figure 13: Surveyed Source of Income of Non – Workers & Workers – Main & Marginal in Nabarangpur District
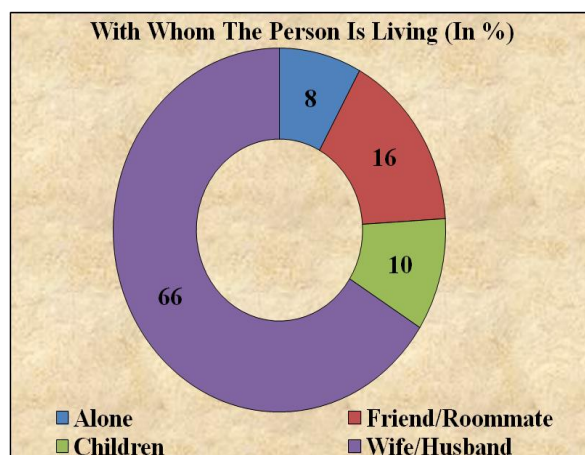
Figure 14: Surveyed Living Aspect of Non – Workers & Workers – Main & Marginal in Nabarangpur District
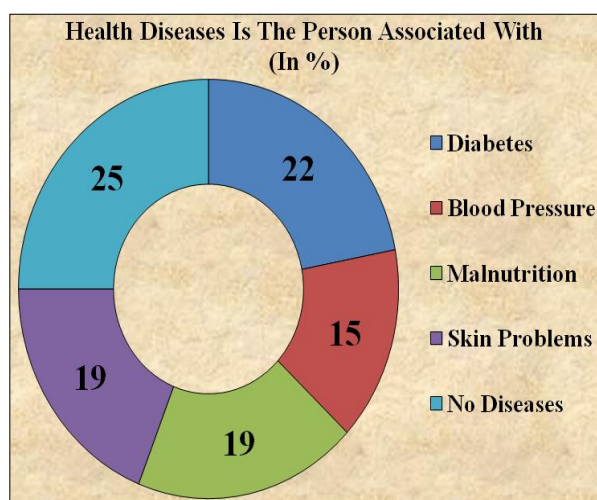
Figure 15: Surveyed House Type of Non – Workers & Workers – Main & Marginal in Nabarangpur District
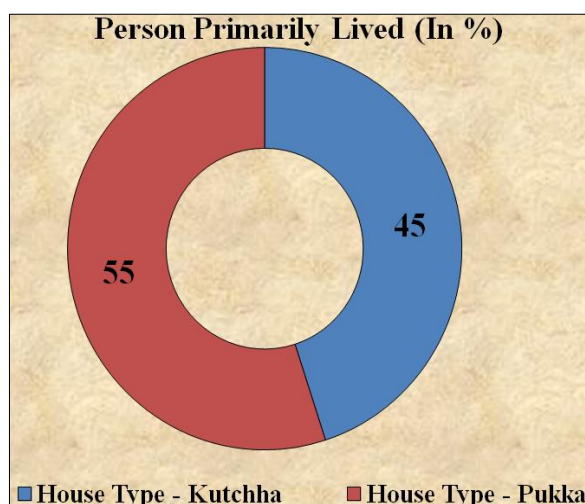
Figure 16: Surveyed Health Status of Non – Workers & Workers – Main & Marginal in Nabarangpur District
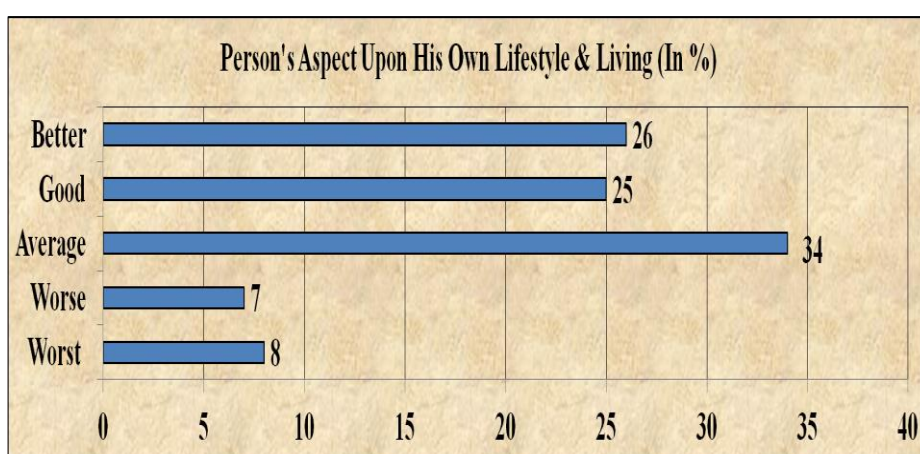
Figure 17: Surveyed Living Aspects of Non – Workers & Workers – Main & Marginal in Nabarangpur District
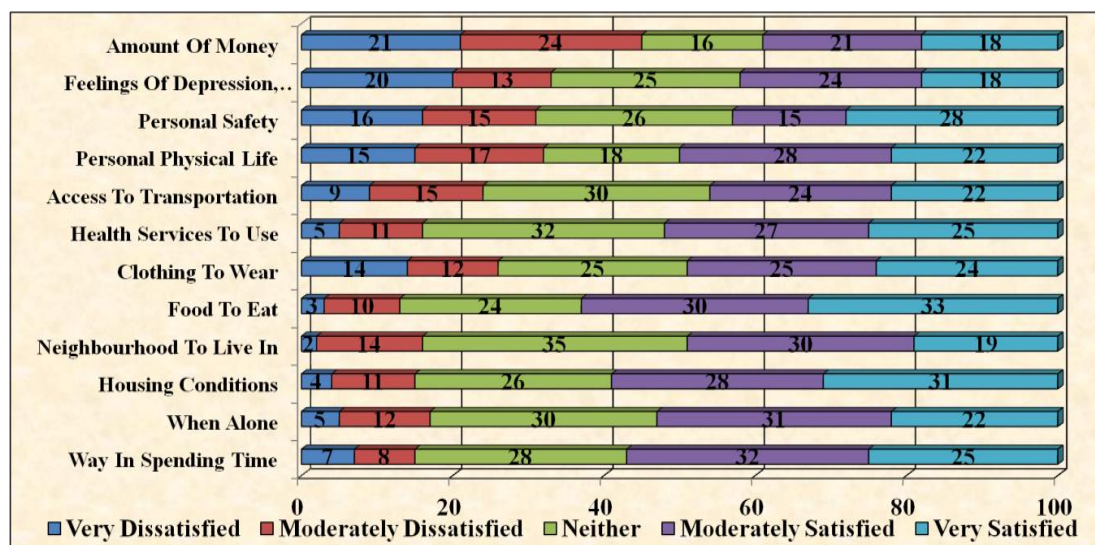
Figure 18: Surveyed Remarks Upon Quality of Life (QOL) by Non – Workers & Workers – Main & Marginal Including Cultivators, Agricultural Labourers, Workers in Household Industry & Others Workers in Nabarangpur District

Quantitative Measurement of QOL

The study is based on the secondary data taken from the District Census Handbook, Khordha and Nabarangpur, 2011. The census provides data on percentage of rural population served by basic amenities like health, education, sanitation, financial services & power supply facilities in Khordha and Nabarangpur district at block level. In order to analyse the quality of life in rural areas of Khordha and Nabarangpur district five indicators are assumed like health, education, sanitation, financial services & power supply. The first attempts to transformation of data on individual variables into a kind of standard score using the method of Z – scores. Z – Scores is a linear transformation of original data such that its mean become zero and its standard deviation becomes unity. It is denoted by Z.

$$Z_{ij} = \frac{X_{ij} - X_i}{\sigma_i}$$

Where, Zij = Standardized value of the variable i in District's block j.

        Xij = Actual value of variable i in district's block j.

        Xi = Mean value of variable i in all block of the districts.

        σi = Standard deviation of variable i in all block of the districts.

In the second step, the Z – scores of all variables have been added block – wise and the average has been taken out for these variables which may be called as Composite Z - Score (CS) for each block and can be algebraically expressed as:

$$CS = \frac{\Sigma Z_{ij}}{N}$$

Where, CS is composite score,

N refers to the number of indicators (variables).

The positive values relating to the total z-score of a block explain high level and negative values shows the low level of development in respect of amenities like health, education, sanitation, financial services and power supply. And quality of life is analysed through the composite z-scores of the blocks. Thus, the blocks of the district for total z-score is divided into three categories; low (-10 to - 3), medium (-3 to 3) & high (3 to 10) likewise for composite z-scores these are classified as; low (-5 to - 2), medium (-2 to 2) and high (2 to 5).

Besides, advanced cartographic techniques, Arc GIS software (version 10.4) have been applied to show the block-wise spatial variation in quality of life through map based on the important amenities in rural areas of Khordha and Nabarangpur districts.

RESULTS AND DISCUSSIONS

The conception of quality of life (QOL) issues becomes increasing important in the socio-economic matter. It tends to argue how and which context of quality of rural life provides an opportunity to resolve the paradox of development. Two districts i.e. Khordha and Nabarangpur in Odisha state can act as a counterweight to the location and dislocation upon an individual's life brought by economic process and infrastructure facilities in their surrounding areas/locality.

Indicators Considered For Quantitative Assessment
Health Dimension

- Number of Community Health Centre (CHC)
- Number of Primary Health Centre (PHC)
- Number of Primary Health Sub Centre (PHSC)
- Number of Maternity & Child - Welfare Centre
- Number of Tuberculosis Clinic (T.B)
- Number of Hospital - Allopathic
- Number of Hospital - Alternative Medicine
- Number of Dispensary
- Number of Veterinary Hospital
- Number of Family Welfare Centre (FWC)
- Number of Medical Practioner (With MBBS Degree)
- Number of Medical Practioner (With Other Degree)
- Number of Medicine Shop

Education Dimension

- Number of Pre-Primary School
- Number of Primary School
- Number of Middle School
- Number of Secondary School

An Assessment of Quality of Life in Rural Areas of Districts in Odisha:
(A Block - Wise Case Study for Khordha and Nabarangpur Districts)

11

- Number of Senior Secondary School

- Number of Degree College of Arts, Science & Commerce

- Number of Degree College of Engineering

- Number of Medical College

- Number of Vocational Training Schools

- Number of Non - Formal Training Centre

Sanitation Dimension

- Number of Tap Water (Treated/Untreated) facility

- Number of Well Water (Covered/Uncovered) facility

- Number of Hand Pump facility

- Number of Tube well/Bore well facility

- Number of spring facility

- Number of River/Canal facility

- Number of Tank/Pond/lake facility

Financial Services Dimension

- Number of Commercial & Co-Operative Banks

- Number of Automatic Teller Machine (ATM)

- Number of Agricultural Credit Societies

- Number of Public Distribution System (PDS)

Power Supply Dimension

- Percentage of Electrified Areas (Villages) In Blocks

Table 9: Total & Composite Z – Scores of Each Block w.r.t. Availability of Basic Amenities to the Population in Rural Areas of Khordha District, 2011

S.N	Name of Community Development Block	Total Z - Score - Health	Total Z - Score - Education	Total Z - Score - Sanitation	Total Z - Score - Financial Services	Total Z - Score: Power Supply	Composite Z - Scores
1	Banapur	5.7622	-2.1359	7.3938	-0.9270	0.4489	2.1084
2	Chilika	-6.0063	-7.5773	-4.3221	3.7953	0.0503	-2.8120
3	Tangi	4.7814	0.9967	-1.6831	4.0791	-1.7535	1.2841
4	Begunia	7.1067	3.1478	0.3792	-0.5086	-0.4950	1.9260
5	Bolagad	6.1462	3.6287	3.6700	-1.6802	0.1342	2.3798
6	Khordha	6.6859	1.2010	2.1470	-0.7957	0.5537	1.9584
7	Jatani	0.2105	8.4653	-2.4951	-2.3079	-1.0194	0.5707
8	Bhubaneswar	-0.0607	1.3735	-0.2856	-2.4334	-0.4950	-0.3803
9	Balianta	-3.1544	-4.7336	-2.0733	0.5968	1.8123	-1.5104
10	Balipatna	-4.2974	-4.3663	-2.7308	0.1817	0.7635	-2.0899

Source: Data through District Census Handbook Khordha/2011

Table 10: Total & Composite Z – Scores of each block w.r.t. Availability of Basic Amenities to the Population in Rural Areas of Nabarangpur District, 2011

S.N	Name of Community Development Block	Total Z - Score - Health	Total Z - Score - Education	Total Z - Score - Sanitation	Total Z - Score - Financial Services	Total Z - Score: Power Supply	Composite Z - Scores
1	Raighar	3.6773	3.8060	2.5984	0.6227	-0.9553	1.9498
2	Umarkote	5.1926	0.3700	1.5492	0.9452	-0.4949	1.5124
3	Chandahandi	-5.0526	-1.6436	2.2634	-2.5407	-1.7611	-1.7469
4	Jharigan	-5.3011	1.0995	9.3529	5.9486	0.6561	2.3512
5	Dabugan	1.6323	7.6680	-5.8667	-2.9357	1.4618	0.3919
6	Paparahandi	-1.0799	-2.8773	-3.4051	1.7661	0.6561	-0.9880
7	Kosagumuda	5.8448	5.7073	6.6683	-0.5971	-0.8402	3.3566
8	Nabarangpur	-5.2324	-2.0054	-5.1528	0.0699	1.3467	-2.1948
9	Nandahandi	-0.4089	-6.8379	-6.0907	-0.5736	0.7712	-2.6280
10	Tentulikhunti	-2.7145	-5.2865	-1.9169	-2.7054	-0.8402	-2.6927

Source: Data through District Census Handbook Nabarangpur/ 2011

The above scores in Table 10 & Table 11 for Khordha and Nabarangpur districts of each dimension are obtained by making calculations using the Z-Scores followed by Composite scores. Here, the parameters are taken from district census handbook of Khordha and Nabarangpur, 2011 as published in village directory – Appendix section which includes the summary of total number of amenities present in the Community Development (CD) block level.
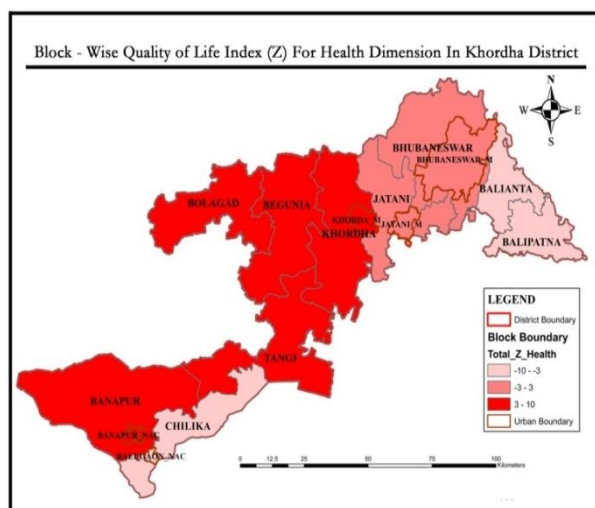
HEALTH DIMENSION

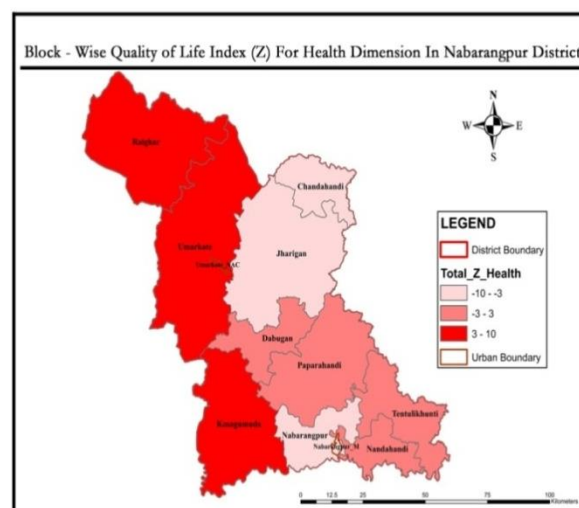**Figure 19 (a): Availability of Health Facilities in Khordha District**

Figure 19 (b): Availability of Health Facilities in Nabarangpur District

Health can be defined as physical, mental, and social well-being, and as resource for living a better quality of life. Living a healthy life means making lifestyle choices that support your spiritual, and emotional well-being. Figure 19 (a) and Figure 19 (b) shows the spatial variation of health infrastructurefacilities in rural areas of Khordha and Nabarangpur districts. The blocks Banapur, Tangi, Bolagad, Tangi, Begunia, Khordha belong to the category of high availability of health facilities followed by Jatani, Bhubaneswar have medium and Chilika, Balianta, Balipatna blocks in the class of low category in Khordha district and in Nabarangpur district blocks namely, Raighar, Umarkote, Kosagumuda belong to the category of high

availability of health facilities followed by Dabugan, Paparahandi, Tentulikhunti, Nandahandi have medium and Chandahandi, Jharigan, Nabarangpur blocks in the class of low category.
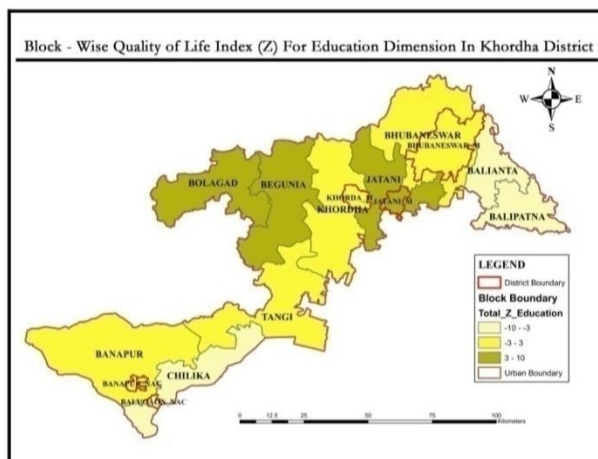
EDUCATION DIMENSION

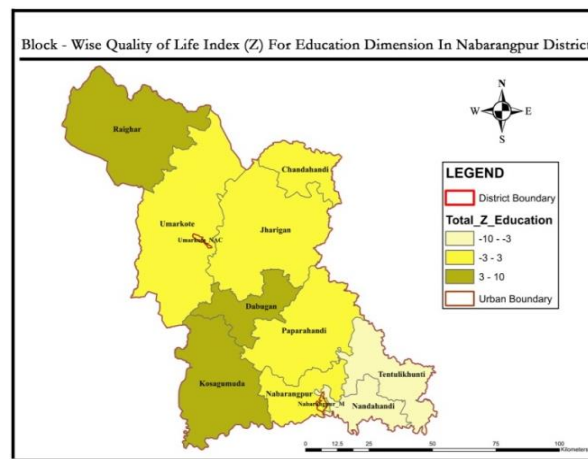**Figure 20 (a): Availability of Education Facilities in Khordha District**

Figure 20 (b): Availability of Education Facilities in Nabarangpur District

Education is the light of life. Education helps to attain quality of life; educated people have quality better than an uneducated person. The overall education infrastructure facilities available to the people of Khordha and Nabarangpur districts have been shown in the Figure 20 (a) and Figure 20 (b). The Bolagad, Begunia, Jatani blocks in Khordha district fall under the category of high accessibility of education facilities, while Banapur, Tangi, Khordha, Bhubaneswar have medium while; Chilika, Balianta, Balipatna comes under the set of low category of availability of education; so as in Nabarangpur district Raighar, Dabugan, Kosagumuda blocks fall under the category of high accessibility of education facilities, while Umarkote, Chandahandi, Jharigan, Paparahandi, Nabarangpur have medium while; Tentulikhunti, Nandahandi comes under the set of low category.
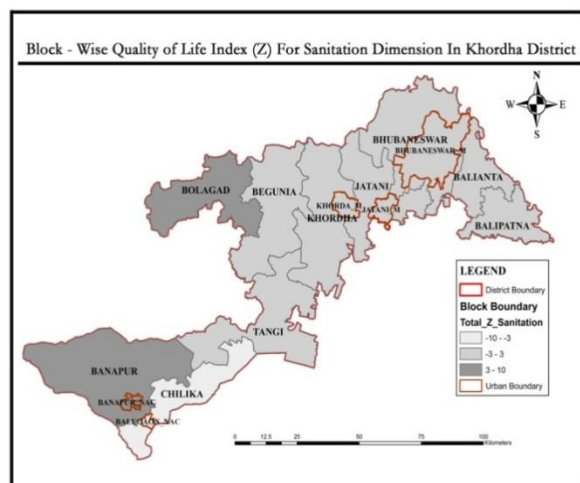
SANITATION DIMENSION

Figure 21 (a): Availability of Sanitation Facilities in Khordha District
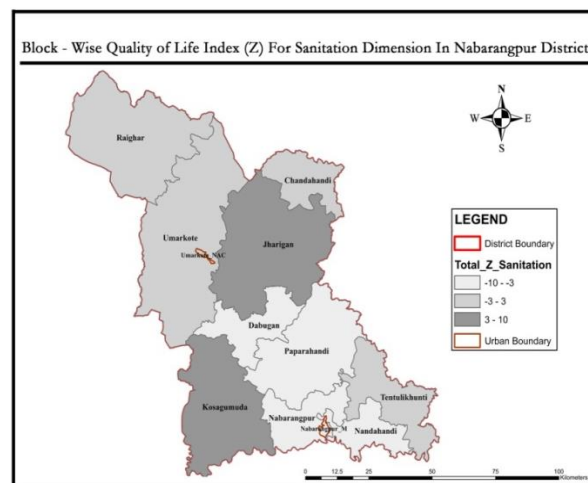

Figure 21 (b): Availability of Sanitation Facilities in Nabarangpur District

Water is necessary human need and thus the availability of water supply is one of the basic amenity for every region. Sanitation is important for all, helping to maintain health and increasing life-spans. In addition sanitation brings to quality of life and also generates economic benefits. The blocks in Khordha district of Figure 21 (a) shows that the Banapur, Bolagad blocks comes under the category of high favourability of sanitation facilities followed by Tangi, Begunia, Khordha, Jatani, Bhubaneswar, Balianta, Balipatna have medium and Chilika are in phase of low category; similarly in case of Figure 21 (b) of Nabarangpur district the Jharigan, Kosagumuda blocks comes under the category of high favourability of sanitation facilities followed by Raighar, Umarkote, Chandahandi, Tentulikhunti have medium and Dabugan, Paparahandi, Nabarangpur, Nandahandi are in phase of low category.

FINANCIAL SERVICES DIMENSION

Financial Services is a major trend in terms of work basis which in a perspective would constitute an important factor of capitalization and regeneration of rural economy. Financial Services accessible to the population of Khordha and Nabarangpur districts has been presented in Figure 22 (a) and Figure 22 (b). The Chilika, Tangi blocks of the Khordha District represent the category of high availability of financial services facilities whereas; Banapur, Begunia, Bolagad, Khordha, Jatani, Bhubaneswar, Balianta, Balipatna comes under the class of medium category. Then in Nabarangpur district the Jharigan block represent the category of high availability of financial services facilities whereas; Raighar, Umarkote, Kosagumuda, Dabugan, Paparahandi, Tentulikhunti, Nandahandi, Chandahandi, Nabarangpur comes under the class of medium category. There are no low category blocks present in both Khordha and Nabarangpur districts.
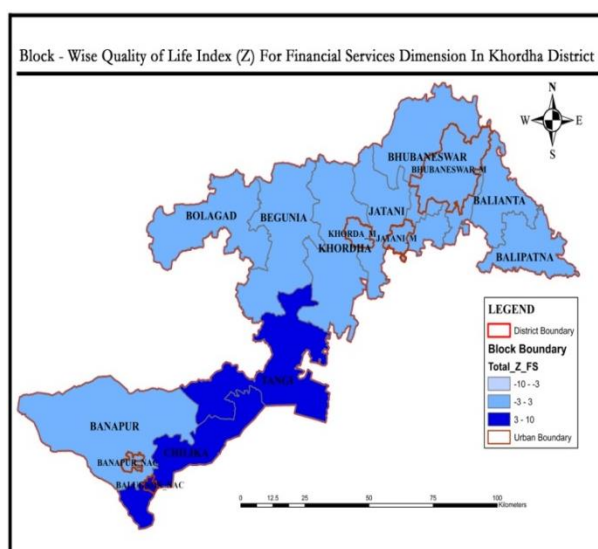

Figure 22 (a): Availability of Financial Services Facilities in Khordha District
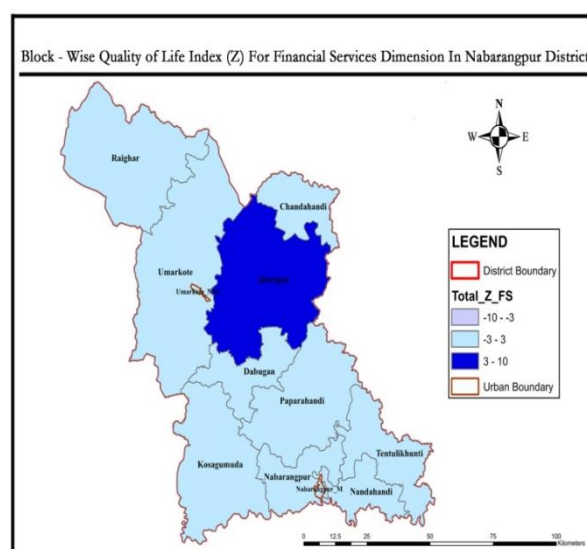
Figure 22 (b): Availability of Financial Services Facilities in Nabarangpur District

POWER SUPPLY DIMENSION

When quality of the power (electricity) supplied is sufficient, it results in performance upgradation and increase expectancy of an individual for societal needs. Accessibility of power supply to rural population of Khordha and Nabarangpur districts at block level has been shown in Figure 23 (a) and Figure 23 (b). The Figure 23 (a) and Figure 23 (b) represent that the Banapur, Chilika, Tangi, Begunia, Bolagad, Khordha, Jatani, Bhubaneswar, Balianta and Balipatna blocks belongs to medium accessibility of Power Supply in the Khordha District which is same also to Nabarangpur

district as the Raighar, Umarkote, Kosagumuda, Dabugan, Paparahandi, Tentulikhunti, Nandahandi, Chandahandi, Jharigan and Nabarangpur blocks also belongs to medium accessibility of Power Supply. The every block of both the districts shows medium category of variation in availability of power supply infrastructure facilities.
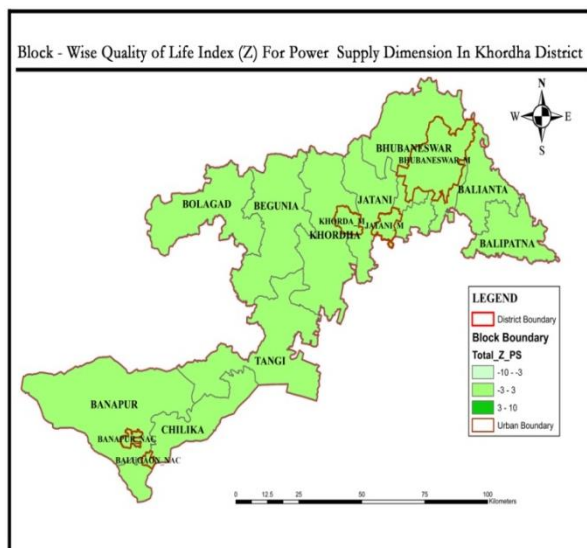

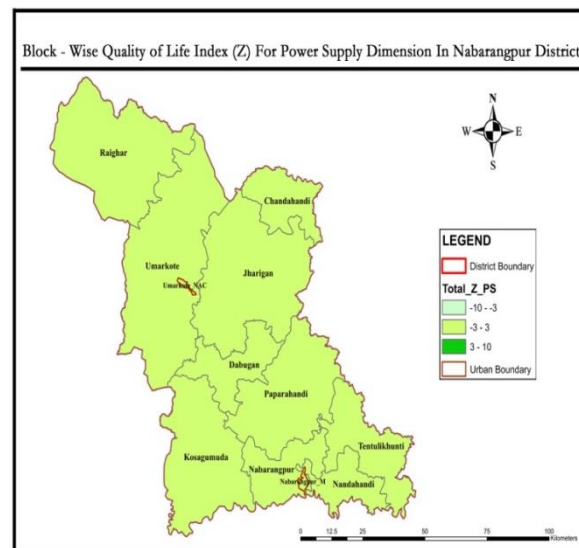**Figure 23 (a): Availability of Power Supply Facilities in Khordha District**

Figure 23 (b): Availability of Power Supply Facilities in Nabarangpur District
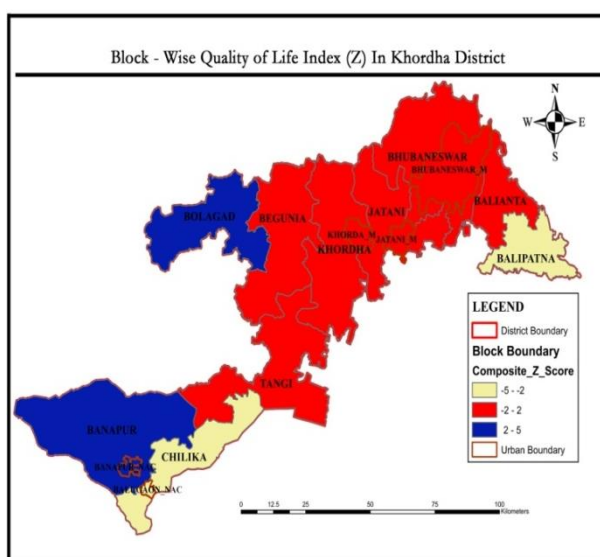
QUALITY OF LIFE

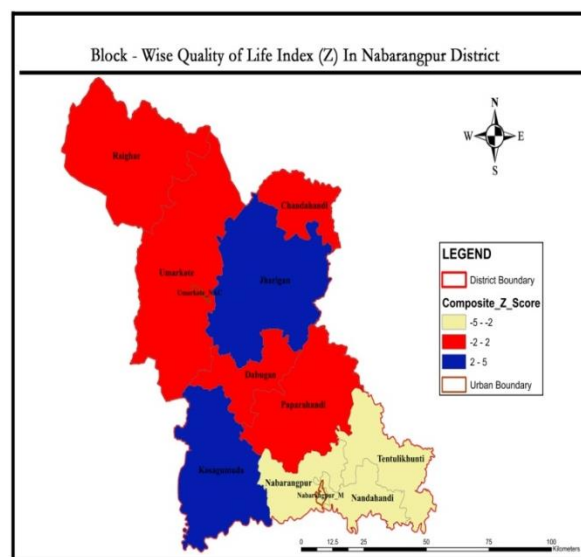**Figure 24 (a): Quality of Life in Khordha District**

Figure 24 (b): Quality of Life in Nabarangpur District

Level of Quality of Life in rural areas of Khordha and Nabarangpur districts among ten blocks each is given in Figure 24 (a) and Figure 24 (b). For Khordha district as shown in Figure 24 (a) it represents that rural population of Banapur, Bolagad blocks has high level of quality of life whereas Tangi, Begunia, Khordha, Jatani, Bhubaneswar, Balianta blocks have medium level and Chilika, Balipatna blocks comes into the low level of quality of life. In case of Nabarangpur district as shown in Figure 24 (b) it shows that rural population of Jharigan, Kosagumuda Blocks has high level of quality of life while Raighar, Umarkote, Chandahandi, Dabugan, Paparahandi blocks comes under medium level and Nabarangpur, Nandahandi, Tentulikhunti blocks represent low level of quality of life. These findings preview the Quality

of life conditionings in between the districts of Odisha.

CONCLUSION AND INTERPRETATION

Making Comparison between Developed District of Khordhaand Backward District of Nabarangpur for Quality of Life with Respect to Urbanization And Human Development (HDI) Values, it is found that the Banapur, Bolagad blocks in Khordha District and Jharigan, Kosagumuda Blocks in Nabarangpur District has high level in Quality of Life while; Tangi, Begunia, Khordha, Jatani, Bhubaneswar, Balianta blocks in Khordha District and Raighar, Umarkote, Chandahandi, Dabugan, Paparahandi blocks comes under medium Category also, Chilika, Balipatna blocks in Khordha District and Nabarangpur, Nandahandi, Tentulikhunti blocks In Nabarangpur District fall in the low category.

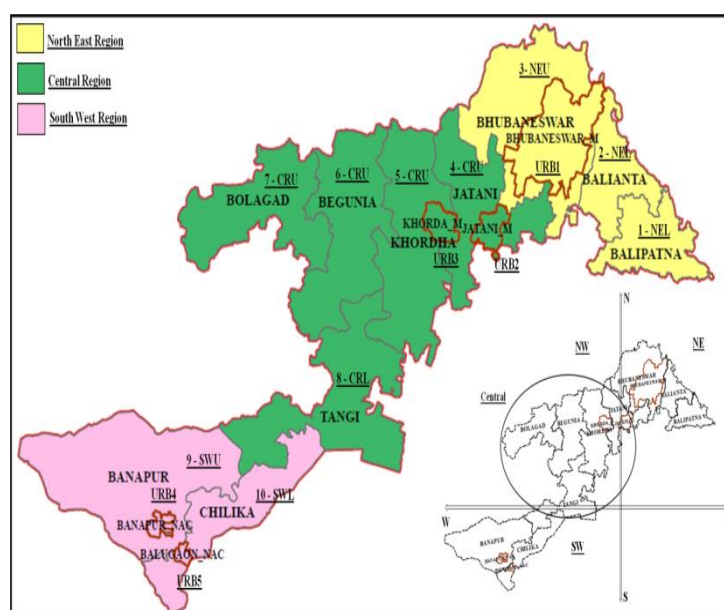**Interpretation – Khordha District**

Figure 25: Geographical Classification of Study Area – Khordha District

After analysis it is found out that the blocks having medium availability of infrastructure facilities as well as medium quality of life forms a contiguous region, while contrary to that the blocks having low and high availability of infrastructure facilities as well as low and high level of quality of life, do not form contiguous zone (Figure 24 (a)) in Khordha district.

- In the North – East (NE) region of Khordha district, the upper part & lower part are having medium & low availability of health & educational facilities. But the availability of sanitation, financial services and power supply facilities are medium throughout the NE region.

- In the Central Region (CR), it has high availability of health facilities except Jatani Block (medium) but the availability of Sanitation facilities is medium except the Bolagad Block (High) and also Power Supply availability is medium. However, in the upper part, it has high availability of educational facilities except Khordha Block (Medium) and with medium availability of financial services in this region whereas, in the lower part it has medium availability of education facilities but the availability of financial services are high in this region.

- For South – West (SW) Region, the upper part is having high availability of health & sanitation facilities also having medium availability in education & financial services while, the lower part is having low availability of health, education & sanitation facilities but the availability of financial services is high.

- These explanatory on the basis of Total Composite scores shows that Quality of Life is Medium in the North – East (NE) region except the Balipatna Block (low) while; medium in the most blocks of Central (CR) region except the Bolagad Block (high) whereas; in the South – West (SW) it shows both high in Banapur and low quality of life in Bolagad Blocks respectively.
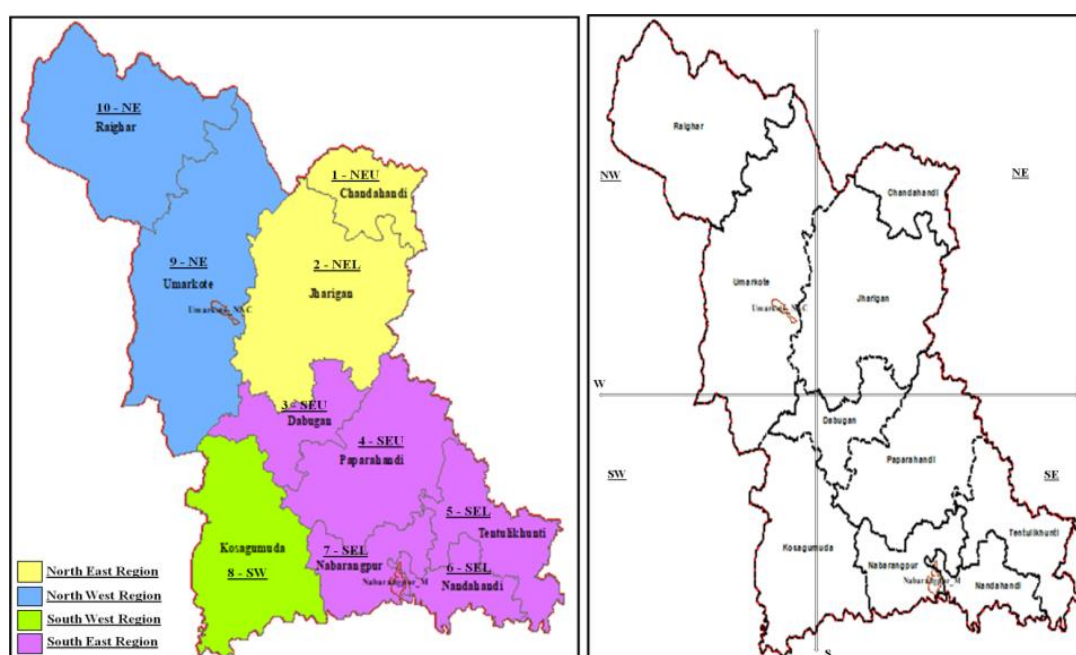
Interpretation – Nabarangpur District

Figure 26: Geographical Classification of Study Area – Nabarangpur District

It is observed that blocks having medium and low availability of infrastructure facilities as well as medium and low quality of life forms a contiguous region, while contrary to that the blocks having high availability of infrastructure facilities as well high level of quality of life, do not form contiguous zone (Figure 24 (b)) in Nabarangpur district.

- In the North – East (NE) region of Nabarangpur district, the upper part has medium sanitation and Financial Services availability perhaps in the lower part the availability of sanitation and financial services is high in this region. Although it has low availability of health facilities but the availability of education and Power Supply is medium throughout the region.

- In South – East (SE) region, it has medium availability in health except Nabarangpur Block (low), Financial Services, Power Supply but the availability of sanitation is low. The Upper Part of SE region has high availability of education facilities except in Paparahandi Block (medium) while in lower part it has low availability except Nabarangpur Block (medium).

- For South – West (SW) region, it has high availability in health, education and sanitation facilities but the availability of financial services & Power Supply are medium in the region.

- In the North – West (NW) region, the availability of sanitation, Financial Services, Power Supply are medium but availability of health facilities is high. The Upper part of NW region has high availability of education facilities while in the lower part it has medium availability.

- It is evident that Quality of Life is high in the North – East (NE) region except the Chandahandi Block (Medium) and South – West (SW) region whereas; in the South – East (SE) it shows both medium in Dabugan, Paparahandi& low quality of life Tentulikhunti, Nandahandi and, Nabarangpur Blocks while medium in the North – East (NE) region respectively.

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